TECHNOLOGY (SHRI KAPIL SIBAL) (a) Indian Meteorological Department (IMD) has an early warning system in place to cover cyclone induced disasters. However, for the 'Tsunami' there is no such system available at this stage. Proposal for setting up of an early warning system for Tsunamis is under active consideration of the Government.

(b) The above systems will provide an early warning for cyclones and Tsunamis. As far as earthquakes are concerned, it is not scientifically possible to predict and give an early warning.

Standards of weather forcasting

1804. SHRI PRAMOD MAHAJAN: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether weather forecasting in our country is upto Global Standards; and

(b) if not, the steps taken to make it upto Global Standards?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) and (b) The short range forecast issued by Indian Meteorological Department (IMD) is on par with other countries of the world.

IMD has been issuing forecast of seasonal rainfall during southwest monsoon, using models indigenously developed for the purpose. These models have not been able to forecast some of the droughts in recent years due to the complex nature of the monsoon. Since no other issues seasonal forecasts in respect of the Southwest monsoon, there are no global standards to go by. However, our equipment and mathematical models need upgradation to reduce the margin of error since no science can accurately make prediction of seasonal rainfall. Besides, rainfall forecasting requires synergy between land based, space and ocean based observations for which a group has been set up to prepare new models, again to reduce the margin of error.

The medium range forecast is crucial for agricultural operations. To meet this requirement Government has started a National Centre for Medium Range Weather Forecasting (NCMRWF) at New Delhi. This centre is functioning under Department of Science & Technology (DST) since

1988 and has been providing meteorological forescasts for agro-advisory purposes to 82 Agromet Advisory Units and also for other special situations.

Institute of seismological research in Gujarat

1805. SHRI LEKHRAJ BACHANI:
DR. A.K. PATEL:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether Government have taken any measure to establish an Institute of Seismological Research in Gujarat/all over the country to caution the public of devastating earthquake/Tsunami waves near the coastal areas in future which would be a R&D Institution of International Repute;

(b) if so, the decision on the proposal by Government; and

(c) the provisions of funds for the project?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) and (b) Yes, Sir. The Gujarat State Government has informed that the State has initiated necessary steps to establish an Institute of Seismological Research through its internal resources and external assistance. A Director General to head the Institute has already been appointed. The Institute is mandated for R&D in the field of earthquake. However, at present there is no scientific technique available anywhere in the world to forecast the occurrence of earthquake in terms of space, time and magnitude. For Tsunami, a separate proposal has been prepared to set up a Tsunami Warning System in Indian Ocean. The Department of Science & Technology and Department of Ocean Development are the lead agencies in this endeavour.

(c) Out of the World Bank loan received by State Government under Gujarat Emergency Earthquake Reconstruction Project, an amount of Rs. 30.00 crores has been allocated for the institute. There are no separate budgetary provision within the Department of Science and Technology's, allocations for the said Institute. However, during the last three years the Department of Science & Technology has supported several research projects in Gujarat area for better earthquake hazard assessment.